

Serial No. 10/806,198

BESTE et al.

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A P P E N D I X I:

CLAIM AMENDMENTS:

Enter new Claims 14 to 20 as indicated in the following listing of the claims:

1. (previously presented) A process for the purification of ionic liquids which are contaminated with a polar, high boiling compound which cannot be removed completely from the ionic liquids by way of a distillation and/or which has a vapor pressure of less than about 10 mbar at room temperature, which process comprises providing a mixture comprising the ionic liquids and the polar, high boiling compound, and removing the polar, high boiling compound from the ionic liquids by adsorptive separation.
2. (original) A process as claimed in claim 1, wherein the separation is carried out by means of ion exchange.
3. (original) A process as claimed in claim 1, wherein the separation is carried out by means of chromatography.
4. (original) A process as claimed in claim 3, wherein the separation is carried out by means of a continuous chromatographic process.
5. (cancelled)
6. (previously presented) A process as claimed in claim 1, wherein water, methanol, ethanol, 1-propanol or isopropanol or a mixture thereof is used as solvent.
7. (previously presented) A process as claimed in claim 1, wherein reversed phase silica gels, resins, ion exchangers, zeolites, aluminum oxides or activated carbon are used as stationary phases.
8. (previously presented) An adsorption separation process for removing an impurity from an ionic liquid contaminated with said impurity, wherein said impurity is a polar, high boiling compound which cannot be removed completely from the ionic liquid by way of a distillation and/or said compound has a vapor pressure of less than about 10 mbar at room temperature, wherein the ionic liquid has an anion and cation, the cation comprising at least one five- or six-membered heterocycle containing at least one phosphorus or nitrogen atom; and

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- wherein the process comprises a first step of contacting the contaminated ionic liquid with a resin, and a second step of separating the purified ionic liquid from the resin.
9. (previously presented) The separation process of claim 8, wherein the resin is at least one of an ion exchange resin and an absorption resin.
 10. (previously presented) The separation process of claim 8, wherein the separation is carried out by chromatography.
 11. (previously presented) The separation process of claim 8, further comprising a step of removing low boiling compounds by evaporation.
 12. (previously presented) The separation process of claim 8, wherein water, methanol, ethanol, 1-propanol, isopropanol or a mixture thereof is used as solvent.
 13. (previously presented) The separation process of claim 8, wherein the anion is a halide.
 14. (new) A process as claimed in claim 1, wherein the polar, high boiling compound cannot be removed completely from the ionic liquids by way of a distillation.
 15. (new) A process as claimed in claim 1, wherein the polar, high boiling compound cannot be removed completely from the ionic liquids by way of a distillation and said compound has a vapor pressure of less than about 10 mbar at room temperature.
 16. (new) A process as claimed in claim 8, wherein the polar, high boiling compound cannot be removed completely from the ionic liquids by way of a distillation.
 17. (new) A process as claimed in claim 8, wherein the polar, high boiling compound cannot be removed completely from the ionic liquids by way of a distillation and said compound has a vapor pressure of less than about 10 mbar at room temperature.
 18. (new) An adsorption separation process for removing an impurity from an ionic liquid contaminated with said impurity, wherein said impurity is a polar compound which cannot be removed completely from the ionic liquid by way of a distillation and/or said compound has a vapor pressure of less than about 10 mbar at room temperature,

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which process comprises

firstly providing the contaminated ionic liquid

(a) by separating volatile components from a mixture comprising the ionic liquid, said volatile components and the impurities, by means of evaporation or rectification, and/or

(b) by separating non-polar components from a mixture comprising the ionic liquid, said non-polar components and the impurities, by means of extraction with a non-polar organic solvent,

subsequently contacting the contaminated ionic liquid with a resin, and then separating the purified ionic liquid from the resin.

19. (new) A process as claimed in claim 18, wherein the polar compound cannot be removed completely from the ionic liquids by way of a distillation.
20. (new) A process as claimed in claim 18, wherein the polar compound cannot be removed completely from the ionic liquids by way of a distillation and said compound has a vapor pressure of less than about 10 mbar at room temperature.